

A B S T R A C T

[Abstract of the Disclosure]

A catalytic system for producing a high molecular weight cyclic olefin polymer in
5 high yields is provided herein. This catalytic system is free from deactivation of
catalytic activity caused by polar groups in the monomer(s). A method for producing
polymers using the same system is also provided.

The catalyst for polymerizing olefin and the method of producing polymers using
the same are capable of inhibiting deactivation of a catalyst caused by polar functional
10 groups of monomers due to the catalytic system's excellent thermal, chemical stability.
Thus, polyolefins having a molecular weight of equal to or greater than 100,000 can be
prepared with a polymerization yield of equal to or greater than 60%. In addition, the
ratio of catalyst to monomer can be in the range of 1/5000 to 1/20,000 due to good
activity of the catalyst, and thus removal of catalyst residues is not required.

15

[Keywords]

Cyclic olefin polymer having a polar functional group, norbornene, catalyst
deactivation, phosphonium, Group 13 compound, Group 10 transition metal.